

REMARKS

Claims 29-39 and 43-50 are pending in the application. Claims 1-28 and 42 have been previously cancelled. Claims 40-41 are currently cancelled. Claim 29, 31-32, 35, 37, and 39 are currently amended. Claims 44-50 are newly added.

Claims 44-50 are new claims. Claims 44-46 are supported by Example 9, Table 1 on page 29 of the specification as originally filed. Claims 47-48 are supported by Example 9, Table 2 on page 29-30 of the specification as originally filed. Claim 49 is supported by Example 9, Table 5 on page 31 of the specification as originally filed. Claim 50 is supported by Example 9, Table 6 on page 31 of the specification as originally filed. No new matter has been introduced by the current amendments.

I. Claim Objections

Applicant appreciates the withdrawal of the objection to claim 36.

II. Claim Rejections--35 U.S.C. §112 Second Paragraph

Claims 29, 31-32, 37 and 39-41 and their dependent claims stand rejected under 35 U.S.C. §112 second Paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The Examiner maintained that the term “yeast derived promoter” is vague and indefinite. Although Applicant continues to traverse the rejection for reasons set forth in the Response filed February 22, 2007, this rejection is rendered moot because of the amendment currently presented.

The Examiner also maintains that claims 29 and 37 are vague and indefinite for use of the terms “optimal” and efficient.” Applicant respectfully disagrees with the Examiner because relative terms may be used in claims as long as one of ordinary skills in the art would appreciate the meaning of the terms in the context of the specification. The rejection is rendered moot by the current amendment on claims 29 and 37.

Claim 31 stands rejected for reciting that the nucleic acid polymer is “inserted into said strain’s chromosome.” Applicant has amended claim 31 for purpose of clarification by replacing “chromosome” with the term “genome.”

Claim 32 stands rejected for reciting “said polypeptide is held by said strain.” Applicant has amended claim 32 for purpose of clarification by replacing “held” with the phrase “retained in the cells of.” Withdrawal of the rejection is respectfully requested.

Claims 39-41 stand rejected for being indefinite with respect to the term methionine/cysteine. Claims 39 has been amended to clarify that “methionine/cysteine” may be either methionine or cysteine. Claims 40-41 have been cancelled.

III. Claim Rejections--35 U.S.C. §112 First Paragraph

Claim 29-41 and 43 stand rejected under 35 U.S.C. §112 First Paragraph as failing to comply with the written description requirement. The Examiner maintains that the claims do not provide any structural information with regard to the ratios of amino acids required, and how such ratios would be determined such that it would complement an insufficiency in a predetermined feed source. Claims 29 and 37 are currently amended. As amended, the ratio of amino acids in the polypeptide encoded by the construct of Claim 37-39 or expressed by the transformed yeast strains of claim 29-36 are governed by the dietary need of the animal and the particular feed source selected. The Specification at page 7-8, and again in Example 9 at page 29-31 provide ample showing of how the dietary requirements may be determined.

Claims 35 and 39 have now been amended to clarify the composition of the polypeptide encoded by the DNA polymer. These amendments are supported by the disclosure on page 8 of the specification as originally filed. Claims 40-41 have been cancelled.

Thus, all limitations of Claims 29-41 and 43 as amended are adequately described in the Specification as originally filed, and one of skills in the art would recognize that Applicant was in possession of the invention at the time the instant application was filed. Withdrawal of the rejections under 35 U.S.C. §112 First Paragraph is respectfully requested.

IV. Claim Rejections--35 U.S.C. §102

(1) Claims 29-30, 32-34, 36-37 and 43 stand rejected under 35 U.S.C. §102(b) as being anticipated by Barr et al. (J. Exp. Med. 165:1160-71, 1987). The Examiner interpreted the rejected claims as encompassing ANY transformed yeast cells which expresses a

heterologous protein. Applicant respectfully disagrees because the present claims, as currently amended, are directed to yeast cells or DNA construct or use thereof, that contain a gene encoding a polypeptide with amino acid content of said polypeptide being determined by the desired quantity and ratio of amino acids for dietary requirements of a specific animal fed with a specific diet. The desired quantity and ratio of amino acids for dietary requirements of the animal is determined by the grain cereal and the specific nutritional needs of the particular animals.

Barr et al. merely teaches a yeast strain transformed with a construct containing a gene encoding an exogenous protein. Barr et al. does not teach or suggest that the composition of the exogenous protein is determined by the nutritional requirement of the specific animal and the type of diet the animals are normally fed. Further, Claims 35 and 39, as amended, and new claims 44-50 recite various composition of the exogenous protein to be expressed in the transformed yeast. These limitations are not taught in Barr et al. Thus, since not all limitations of the present claims are taught or suggested by the Barr reference, withdrawal of the §102(b) rejection is respectfully requested.

(2) Claims 29-30, 32-34, 36-37 and 43 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 4,826,957 issued to Nussenzweig et al. ('957 patent). The '957 patent merely teaches the expression of an exogenous protein in yeast, nothing was mentioned with regard to how the composition of the protein is designed based on the nutritional requirement of the specific animal and the type of diet the animals are normally fed. Thus, for reasons similar to the ones set forth in the previous section, the '957 patent does not anticipate the present claims as currently amended. Withdrawal of the §102(b) rejection is respectfully requested.

(3) Claims 29-32, 34, 36-37, and 43 stand rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,337,193 issued to Tully et al. ('193 patent). The Examiner again interpreted the claims as encompassing ANY yeast strain with any construct that direct the expression of any proteins. Applicant respectfully traverses this rejection because Tully et al. does not disclose the claim limitation of determining the amino acid requirement of an animal fed with a particular diet and thus the transformed yeast strain of Tully is

distinguishable from the presently claimed yeast strain in the composition of the introduced construct. Withdrawal of the rejections is respectfully requested.

(4) Claims 29-30, 32, 34, 36-37 and 43 stand rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 5,985,605 issued to Cheng et al. ('605 patent). For reasons similar to those presented in the previous sections, Applicant respectfully traverses this rejection because the '605 patent lacks teachings on determining the amino acid requirement of an animal fed with a particular grain in order to design the composition of the DNA construct to be introduced into the yeast strain. Withdrawal of the rejection over Cheng is respectfully requested.

(5) Claims 29-34, 36-37 and 43 stand rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,451,572 issued to Lei et al. ('572 patent). Applicant appreciates the clarification provided by the Examiner. However, the '572 patent merely teaches expression of a foreign protein, such as the appA of E. coli, and never mentions how the composition of the protein is designed based on the nutritional requirement of the specific animal and the type of diet the animals are normally fed. Withdrawal of the rejection over Lei is respectfully requested.

In summary, none of the cited references teaches or suggests designing the composition of the protein based on the nutritional requirement of the specific animal and the type of diet the animals are normally fed. Amended Claims 35 and 39, and new claims 44-50 recite various composition of the exogenous protein to be expressed in the transformed yeast, which further distinguish all cited references. Applicant respectfully requests that the Examiner withdraw all the §102 rejections.

V. Claim Rejections--35 U.S.C. §103

Claims 29-34, 36-38 and 43 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,451,572 issued to Lei et al. ('572 patent) in view of Sikorski et al. (Genetics 122: 19-27, 1989). Applicant respectfully disagrees with the Examiner. As explained in the previous section, the '572 patent fails to teach or suggest the claim limitation wherein the composition of the protein to be expressed in yeast is designed based on the nutritional requirement of the specific animal and the type of diet the animals

are normally fed. Sikorski et al. merely disclosed some shuttle plasmids to be used for gene expression in yeast. Thus, not all claim limitation are taught or suggested by the cited references in combination and withdrawal of the obviousness rejection is respectfully requested.

The Commissioner is authorized to charge Deposit Account No. 12-0600 if any fees are required for this filing.

Respectfully submitted:

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